

Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A polynucleotide vaccine comprising a polynucleotide sequence that encodes [[the]]an HCV Core protein and a polynucleotide sequence that encodes at least one other HCV protein, wherein the polynucleotide vaccine causes expression of the Core protein and other HCV proteins within the same cell, wherein the Core protein and the at least one other HCV protein are encoded in more than one expression cassette, characterized in that thewherein a first expression cassette encoding the Core protein is in a cis location downstream of [[the]]a second expression cassette whichthat encodes at least one of the other HCV proteins.
2. (Currently Amended) A polynucleotide vaccine comprising a polynucleotide sequence that encodes [[the]]an HCV Core protein and a polynucleotide sequence that encodes at least one other HCV protein, wherein the vaccine causes expression of the Core protein and other HCV proteins within the same cell and the sequence of the polynucleotide sequence encoding the [[core]]Core protein has been mutated, wherein such that the mutation reducesnegative effect of expression of the Core protein upon the expression of [[the]]said at least one other HCV protein is reduced, whereinand the Core protein and other HCV proteins are encoded by the polynucleotide vaccine in more than one expression cassettecassette.
3. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 1[[or 2]], wherein polynucleotide encodes a [[core]]Core protein that is truncated from the carboxy terminal end in a sufficient amount to reduce the inhibitory effect of Core protein upon the expression of other HCV proteins.
4. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 3, wherein the polynucleotide encodes [[the]]a mature form of HCV [[core]]Core protein after the second naturally occurring cleavage during normal HCV infection.

5. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in 3, wherein the truncated [[core]]Core protein has a deletion of at least the C-terminal 10 amino acids.
6. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 3, wherein the truncated [[core]]Core protein consists of sequence encoding the Core 1-151 sequenceamino acids 1-151 of the Core protein.
7. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 3, wherein the truncated core protein consists of sequence encoding the Core 1-165 sequenceamino acids 1-165 of the Core protein.
8. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 1, ~~or~~ claim 2 wherein [[the]]a second expression cassette encoding the Core protein is downstream of [[an]]a first expression cassette that encodes[[the]] NS5B protein.
9. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 8, wherein the second expression cassette encoding the Core protein encodes for Core protein in fusion with the HCV NS3 protein.
10. (Currently Amended) ~~A~~HCVThe polynucleotide vaccine as claimed in claim 8, wherein [[one]]the second expression cassette encodes [[the]]a double fusion protein NS3-Core and the first expression cassette encodes ~~ether encoding~~ a NS4B-NS5B double fusion protein.
11. (Currently Amended) ~~An~~HCVThe polynucleotide vaccine as claimed in claim 10, wherein the Core element of the NS3-Core double fusion protein is selected from the group consisting of sequence encoding: Core 1-171, Core 1-165 and Core 1-151 amino acids 1-171 of the Core protein, amino acids 1-165 of the Core protein, and amino acids 1-151 of the Core protein.
12. (Currently Amended) ~~An~~HCVThe polynucleotide vaccine as claimed in claim 11, wherein the Core element of the NS3-Core double fusion protein is sequence encoding Core 1-165 amino acids 1-165 of the Core protein.

13. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in claim 1-~~or~~
~~claim 2~~, wherein the at least one other HCV protein comprises sequence encoding an
HCV protein selected from the HCV proteins group of: NS3, NS4B and NS5B.

14. (Cancelled)

15. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in ~~any one of~~
~~claims 1 to 14~~ claim 1 wherein the polynucleotide sequence is ~~in the form of a~~
plasmid.

16. (Currently Amended) [[A]]The polynucleotide vaccine as claimed in ~~any one of~~
~~claims 1 to 14~~ claim 1, wherein the polynucleotides are codon optimised for
expression in mammalian cells.

17. (Currently Amended) [[A]]The polynucleotide vaccine comprising a
polynucleotide sequence that encodes [[the]]an HCV Core protein and a
polynucleotide sequence that encodes at least one other HCV protein, wherein the
polynucleotide vaccine causes expression of the Core protein and other HCV proteins
within the same cell and the sequence of the polynucleotide sequence encoding the
[[core]]Core protein has been mutated or positioned relative to the polynucleotide
sequence encoding the at least one other HCV protein, wherein such that the mutation
reduces negative effect of expression of the Core protein upon the expression of [[the]]
said at least one other HCV protein, ~~is reduced, characterised in that~~ wherein the Core
protein encoded by the polynucleotide vaccine consists of one of the following group
of sequences encoding: Core 1-151, Core 1-165 and Core 1-171amino acids 1-151 of
the Core protein, amino acids 1-165 of the Core protein, and amino acids 1-171 of the
Core protein.

18. (Currently Amended) A method of preventing or treating an HCV infection in a
mammal comprising administering a vaccine as claimed in ~~any one of claims 1 to 17~~
claim 1 to a mammal.

19. (Currently Amended) A method of vaccination of vaccinating an individual
comprising taking a polynucleotide vaccine as claimed in ~~any one of claims 1 to 17~~

claim 1, coating the polynucleotide onto gold beads with the polynucleotide vaccine
and delivering the gold beads into the skin.

20. (Cancelled)